Phytoremediation of environmental pollutants
Advisor: Tia-Lynn Ashman, biological sciences
Student: Madison Conn, environmental science & geology (Charles and Linda Sorber Scholar)

Solar-Powered Nanotechnology and Origami Engineering
Advisor: Mostafa Bedewy, mechanical engineering & materials science
Student: Thomas Kisiel, mechanical engineering & materials science (John C. Mascaro Scholar)

Urban Permaculture
Advisors: Kevin Bell, bioengineering
Corey Flynn, office of sustainability in the health sciences
Student: Pip Mostern, geology & anthropology (John C. Mascaro Scholar)

The Effect of In-Solution Particles on Reusable, Additive Manufactured Metal Filters
Advisor: Markus Chmielus, mechanical engineering & materials science
Student: Steven Panico, mechanical engineering & materials science (John C. Mascaro Scholar)

Life cycle analysis of metered dose inhalers in the UPMC system
Advisor: Noe Copley-Woods, school of medicine
Stephanie Maximous, school of medicine
Student: Priya Vishnoi, biology & chemistry (John C. Mascaro Scholar)

Storm chasing to understand nutrient cycling in the urban tree canopy
Advisor: Emily Elliott, geology & environmental science
Student: Olivia Rossi, geology & environmental science (John C. Mascaro Scholar)

Environmental Sustainability and Market Competition
Advisor: Michael Hamilton, business
Student: Xindi Shao, industrial engineering (John C. Mascaro Scholar)

Avoiding numerical issues in optimal power flow problems
Advisor: Oliver Hinder, industrial engineering
Student: Haoyu Ding, industrial engineering (John C. Mascaro Scholar)

Energy Harvesting Powered Sensors and Machine Learning
Advisor: Jingtong Hu, electrical & computer engineering
Student: Harry Tye, electrical & computer engineering (John C. Mascaro Scholar)

Tracking migration of monarch butterflies with the world's smallest computer
Advisor: Inhee Lee, electrical and computer engineering
Student: Vishnu Prabakaran, bioengineering (John C. Mascaro Scholar)
Solar Recycling
Advisor: Paul Leu, industrial engineering
Student: Aliya Abildayeva, industrial engineering (Doug Condon Scholar)

Antireflection Glass for Solar
Advisor: Paul Leu, industrial engineering
Student: Dana Briggs, chemical engineering (John C. Mascaro Scholar)

CyberWater2 -- A sustainable data/model integration framework
Advisor: Xu Liang, civil and environmental engineering
Student: Haoji Wang, industrial engineering (John C. Mascaro Scholar)

Manufacturing 3D biomimetic fibrous scaffold
Advisor: Qihan Liu, mechanical engineering and materials science
Student: Yuanxiang Gong, mechanical engineering (John C. Mascaro Scholar)

Experimental and Theoretical Grain Growth Studies of Nanocrystalline Soft Magnetic Alloys for Sustainable Aviation and Space
Advisor: Paul Ohodnicki, mechanical engineering & materials science
Student: Evan Chao, mechanical engineering (John C. Mascaro Scholar)

Exploring Sustainable Design
Advisor: Stephen Quigley, english
Student: Leanni Barreiros, geology & environmental science (John C. Mascaro Scholar)

Mapping sustainable consumption behavior across PA
Advisor: Amin Rahimian, industrial engineering
Student: Yuru Zhang, industrial engineering (John C. Mascaro Scholar)

Single-use plastics in healthcare
Advisor: Joaquin Rodriguez, chemical & petroleum engineering
Student: Nnenna Eko, chemical & petroleum engineering (John C. Mascaro Scholar)

Using diatoms to reconstruct environmental change in central Chile during the Common Era
Advisor: Patrick Shirey, geology & environmental science
Student: Rachael Betz, geology & environmental science (Charles and Linda Sorber Scholar)

Practical optimization of traffic signals to reduce fuel consumption and vehicular emissions
Advisor: Alek Stevanovic, civil & environmental engineering
Student: Jake Winter, urban studies (Frank and Daphna Lederman Scholar)

Environmental Inequality and Disasters Research
Advisor: Fernando Tormos-Aponte, sociology
Student: Christopher Norris Silva, political science (John C. Mascaro Scholar)

Depolymerizing Plastics Waste with Liquid Metals Catalysis
Advisor: Götz Veser, chemical & petroleum engineering
Student: Aaron Winchell, chemistry (John C. Mascaro Scholar)

Laccase-Mimicking Bionanozyme for Sustainable Removal of Water Contaminants
Advisor: Meng Wang, mechanical engineering & materials science
Students: Tyler Henry, geology & environmental science (John C. Mascaro Scholar)
**Materials Design for Advanced Manufacturing of Co-free Cemented Carbides**
Advisor: Wei Xiong, mechanical engineering & materials science
Student: Pocket Pizzutillo, mechanical engineering & materials science (*John C. Mascaro Scholar*)

**Integrated photonic accelerator for efficient machine learning**
Advisor: Nathan Youngblood, electrical & computer engineering
Student: Christopher Kefalos, electrical & computer engineering (*John C. Mascaro Scholar*)

**Alternative Energy Opportunities**
Advisor: Kate Zettl, UPMC center for sustainability
Student: Neeharika Kolli, environmental science & geology (*John C. Mascaro Scholar*)

**Climate inventory and targets**
Advisor: Kate Zettl, UPMC center for sustainability
Student: Dechen Xie, industrial engineering (*John C. Scholar*)